amsa

Association of
Metropolitan
Sewerage Agencies

November 16, 2001

Jeffrey B. Smith
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Water Permits Division
U.S. Environmental Protection Agency
Ariel Rios Building (4203M)
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Washington, DC 20460

Dear Jeff:

Thank you for providing the Association of Metropolitan Sewerage Agencies (AMSA) an opportunity to comment on the U.S. Environmental Protection Agency's (EPA) *Draft Local Limits Development Guidance (August 2001)(Draft Guidance)*. As you know, AMSA represents over 260 of the nation's publicly owned wastewater utilities (POTWs). AMSA members serve the majority of the sewered population in the United States and collectively treat and reclaim over 18 billion gallons of wastewater every day. Local limits are critical tools for all AMSA members. It is vitally important that any guidance on local limits be accurate and meaningful.

Overall, we are pleased with the quality of information provided by EPA in the *Draft Guidance*. The document offers a significant amount of practical information, and when completed will prove to be a useful resource for the wastewater treatment community.

Although pleased with the overall quality of the document, AMSA does have several technical comments. AMSA is concerned with portions of the document that state or infer that the *Draft Guidance*, or some element of the *Draft Guidance*, is "required" rather than simply "recommended" or "suggested". The collective experience of AMSA's members shows that EPA Regional offices and states with NPDES delegation authority sometimes apply and expect strict adherence to procedures and

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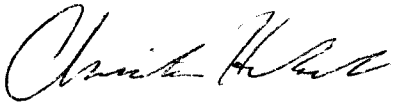
processes described in "guidance" documents. AMSA suggests that EPA edit the entire document to remove references to "required" actions to clarify that the document is intended only as guidance to wastewater treatment agencies.

In addition, the terms industrial user (IU) and significant industrial user (SIU) are defined but used interchangeably throughout the *Draft Guidance*. We encourage EPA to review the full document for the contextual use of these two terms. AMSA also suggests EPA add two appendices to further improve the document. We have included copies of these suggested appendices.

A complete list of our technical comments is attached for your review. Again, thank you for this opportunity to provide comments on this important guidance. We look forward to reviewing the final document in the coming months. In the meantime, should you have any questions, please contact me at 202/833-9106 or *chornback@amsa-cleanwater.org*.

Sincerely,



Christopher Hornback
Manager, Government Affairs

ATTACHMENT

Association of Metropolitan Sewerage Agencies' Comments Regarding the U.S. Environmental Protection Agency's Draft Local Limits Development Guidance (August 2001)

Disclaimer

This section adequately captures the relationship between guidance and regulation in the following paragraph (revised as noted):

> "The discussion in this document is intended solely as guidance. This guidance is not a regulation itself nor ~~does not it~~ shall it be construed as a substitute for any requirements under Clean Water Act or EPA's regulations. Thus, it does not impose legally binding requirements on EPA, States, municipalities or the regulated community, and the general descriptions provided here may not apply to a particular situation based upon the circumstances. This guidance does not confer legal rights or impose legal obligations upon any member of the public."

Glossary

EPA should add definitions for the following terms that appear in the *Draft Guidance*:

- Conventional Pollutants
- Incompatible Pollutants
- Non-conventional Pollutants
- Toxic Pollutants

Chapter 1 - Introduction

1.1 Purpose of This Manual
For clarity, EPA should restate the guidance / regulation distinction contained in the *Disclaimer*.

1.3 Local Limits Process
Paragraph 4 states:

> "*EPA recommends annual review of local limits.* A useful tool for these reviews is a screening analysis to compare previously calculated MAHLs with current POTW

> loadings. A review also should address readily apparent concerns, such as NPDES permit violations. *Section 122.44(j)(2)(ii) requires that NPDES permits contain a condition to provide a written technical evaluation of the need to revise local limits following permit reissue.* If the local limits appear to be insufficient, the POTW should further evaluate the pollutants for which limits should be recalculated or established. As discussed throughout this manual, evaluating these POCs is a key concept throughout the entire local limits process." (Emphasis added with italics.)

Annual review of local limits places a costly and unnecessary burden on Control Authorities, and is inconsistent with the requirement of Section 122.44(j)(2)(ii) to provide a technical evaluation following NPDES permit reissuance. The technical discussion in the *Draft Guidance* should clearly reflect a performance-based approach therefore the paragraph should read:

> "Local limits must be reviewed at least once during each NPDES permit cycle, and a written technical evaluation of the need to revise local limits must be submitted to the Approval Authority following NPDES permit reissuance. Additionally, Control Authorities should review the adequacy of local limits where wastewater treatment plant performance fails to attain applicable NPDES, State or local permit requirements or other operational objectives, including water quality objectives of receiving waters, and the performance shortcomings may be reasonably attributed to pass-through or interference caused by a POC. Finally, Control Authorities may find it beneficial to review their local limits where a change in POTW operations results in a significant change in operational objectives or where the POTW experiences a significant change in influent flow or pollutant characteristics."

1.5 The Relationship of Local Limits to Categorical Standards

Paragraph 2 contains the following sentence, which is confusing and needs to be reworked:

> "Affected third parties also may sue *IUs that have approved pretreatment programs* for violations of local limits under the CWA's citizen suit provision." (Emphasis added with italics)

Control Authorities have approved pretreatment programs, not industrial users.

Chapter 2 - Overview of Local Limits Development

2.1 Local Limits Decision Tree

Paragraph 1 contains the following text, which is inconsistent with the review frequency recommendations indicated above.

> "EPA recommends that POTWs which have approved pretreatment programs review their local limits approximately *3 months before their annual reports* are due and discuss the re-evaluation results in their annual reports. All other POTWs also should probably *perform this evaluation every year,* preferably at about the same time each year." (Emphasis added with italics)

Figure 2-1 POTW Local Limits Decision Tree
The multiple references to *annual* local limits review should be revised consistent with the recommendations above.

2.2 MAHL Approach to Local Limits Development
At the end of section 2.2, there is a definition of MAHL. The definition as written implies that exceeding the MAHL will automatically result in pass through or interference, when in fact removal efficiencies vary from day to day.

Chapter 3 - Determining Pollutants of Concern

The introduction to this chapter includes a definition of pollutant of concern (POC). The definition of a POC according to the *Draft Guidance* "is any pollutant that might reasonably be expected to be discharged to the POTW in sufficient amounts to pass through or interfere with the works, contaminate its sludge, cause problems in its collection system, or jeopardize its workers." This definition is somewhat misleading because it implies that there must be a reasonable expectation that a pollutant will be discharged to the POTW in sufficient amounts to pass through or interfere with the works, contaminate the sludge, cause problems in its collection system, or jeopardize its workers before the pollutant can be considered a POC. The development of a POC should not be limited to those pollutants that cause a pass through or interference event as currently defined in 40 CFR Part 403. Language should be included in the introduction clarifying that POCs may be developed if the POTW is experiencing operational problems that are not necessarily causing a pass through or interference as defined by EPA.

3.1 National POCs
This section of the *Draft Guidance* recommends the screening of 15 pollutants identified by EPA as "National POCs". This initial screening is not well defined. The minimum screening expected should be better defined somewhere in the *Draft Guidance* so that EPA Regions and NPDES-delegated states develop consistent minimum screening requirements for POTWs. In addition, this section leads the reader to believe that all 15 pollutants require the development of local limits, while some of the 15 pollutants identified are conventional pollutants and can be dealt with in ways other than local limits and regulating the effluent (i.e., plant expansion). EPA should not encourage the development of local limits for the conventional pollutants mentioned.

3.2 Other Potential POCs

Though covered in more detail later, no mention is made in this introductory section about identifying potential POCs based on pollutants received at POTWs from hauled waste or based on air emission standards.

In the first sentence of the last paragraph of this section, the word *minimum* is misspelled.

3.2.1. NPDES Permit Conditions

This subsection focuses on the NPDES permit conditions when in many cases POTWs in states with NPDES Authority already meet state-issued permit requirements. This subsection should include language that acknowledges that applicable state-issued permit conditions must be used in determining POCs, when applicable.

This subsection is the first mention or acknowledgement that a pollutant that caused an operational problem can be considered a POC. In other portions of this chapter, the pollutant has to cause the Federally-defined pass through or interference before qualifying as a POC. The definition of what constitutes a POC needs to be more consistent throughout the *Draft Guidance* otherwise its intent and interpretation will be applied differently throughout the Regions and states.

3.2.2 Water Quality Criteria

This subsection includes the following statement: "EPA recommends that any pollutant which has a 'reasonable potential' to be discharged in amounts that could exceed water quality standards or criteria should be considered a POC and evaluated accordingly." EPA should clarify whether users of the document should rely on the reasonable potential guidance contained in the *NPDES Permit Writers' Manual* or provide other guidance to ensure consistent application of the term.

3.2.3 Sludge Quality Standards

The last sentence in paragraph two of this subsection states: "If sewage sludge is disposed of in a municipal solid waste landfill, there are no specific pollutant limitations that apply." Although technically correct, the municipal solid waste landfill regulations at 40 CFR Part 258 do not contain pollutant limitations, this sentence should be modified to clarify that some regulations do apply when sewage sludge is disposed of in a landfill (including state requirements and regulations at 40 CFR Parts 257, 258, and 261). The last paragraph in this subsection does reference the hazardous waste regulations at 40 CFR Part 261 and the requirement to test sludge and ash prior to disposal in a landfill. This statement should be reconciled with the last sentence in paragraph two.

3.2.4 Air Emission Standards

This is the first mention in this chapter of air emission standards being used to identify potential POCs. Most POTWs are not equipped to handle and execute the sampling and monitoring that will be needed to develop local limits based on air emission standards. This

reference to using air emission standards as a basis for identifying potential POCs is disconcerting given the costs and difficulty that POTWs will be faced with in converting air emission standards into defensible local limits.

3.2.6 Prohibitions on Treatment Plant Interference
The discussion included in this subsection is not consistent with that presented in the introduction about how a pollutant should be considered a POC if it has the potential to cause a pass through or interference. This subsection, as written, uses a more liberal and practical approach on how to identify other potential POCs from pollutants that are causing a disruption at a POTW or an increase in operations and maintenance costs with or without causing a violation of the POTW's permit or sludge requirements. There needs to be consistency throughout this chapter as to what constitutes a POC.

3.2.7 Prohibitions to Protect the Treatment Works, Collection System, and Workers
This subsection should include some discussion about the possibility of identifying potential POCs due to other criteria designed to protect the public from pollutants discharged that may cause a nuisance, odor, or hazard. For example, there needs to be some discussion added about developing POCs in order to minimize or eliminate SSOs. The expected protection limited to the treatment works, collection system, and workers should be addressed, as well as the protection of the public.

3.2.8 Scans of POTW Influent, Effluent, and Sludge to Identify Priority Pollutants
This subsection needs to include language about analyzing the data derived from any scans conducted of the hauled waste received by a POTW, when applicable. There might also be a note added about looking for and analyzing data about other sources of priority pollutants being introduced by the POTW itself. For example, a POTW may be using certain chemicals in its operation of the plant, or in the maintenance of its collection system, or in conducting certain treatment operations that may affect the levels of priority pollutants introduced or pollutant characteristics being experienced at the plant.

3.2.9 Evaluations of Industrial and Commercial Discharges
Even though the discussion in this subsection includes a good and relevant list of sources for information about industrial and commercial discharges, it really does not discuss "how to" conduct this evaluation. It would help if this subsection included some discussion about what pollutant threshold levels are considered significant enough to warrant further study by a POTW once the POTW acquires the data. For example, when does one include commercial or general industrial user flows as part of a contributory flow analysis in the development of local limits?

3.2.10 Hauled Waste

This is the first time that hauled waste is mentioned in this chapter. Hauled waste should be mentioned in the introduction as noted previously in these comments. A more thorough discussion on how hauled waste should be considered in identifying potential POCs is needed. There should be a more detailed discussion about how to develop local limits from the analysis of hauled waste data. A reference is made to another guidance manual for acquiring additional information on the acceptance and characterization of hauled wastes at POTWs, but it is not clear if this other guidance manual will help in identifying potential POCs or developing local limits based on hauled wastes.

3.2.11 Remediation Site Work

The opening paragraph of this subsection states that wastes from remediation sites will be hauled to the POTW, when in fact, remediation site waste may be introduced or discharged to a POTW in a variety of ways. This paragraph should be reworded to recognize that not all remediation site wastes are hauled to POTWs.

3.2.12 Hazardous Wastes

POCs identified from the analysis of hazardous wastes or from remediation sites may include pollutants that require analytical methods not currently listed in the approved methods list in 40 CFR 136. There should be some discussion about how POTWs can use other non-40 CFR 136 analytical methods when developing and enforcing local limits for pollutants not included in the 40 CFR 136 methods.

3.3 Screening Process to Select Pollutants for Local Limits Monitoring Program and Limit Development

The third bullet after the first paragraph in this section should include the phrase "or state limit," so that the applicable state limits are included in the initial headworks analysis.

The bullets in the second paragraph need to be refined. The last two bullets are redundant and need to be removed altogether and the remaining four need to be better defined.

This section includes some specific criteria for POTWs to use in determining when a potential POC should be subject to local limits monitoring. This section also acknowledges that Regional EPA offices and Approval Authorities may also have some guidelines that POTWs can use in determining POCs. AMSA is concerned that the inclusion of these criteria may end up becoming the minimum standard used by all Approval Authorities throughout the country. What may work for one part of the country may not necessarily work in other parts where conditions vary significantly. Most POTWs in the southwestern and western part of the United States discharge to receiving streams with relatively low flows compared to other parts of the country. The threshold levels for the development of local limits described in these criteria may not be practical when the water quality limits are at or near analytical detection levels. The same argument for using caution in the application of the other POC criteria listed should also be used.

3.4 Conclusion
Again, there needs to be some consistency throughout as to what constitutes a POC to avoid confusing users of the *Draft Guidance.*

Chapter 4 - Data Needed to Develop Local Limits

Introduction
There are distinctly different definitions for significant industrial users (SIUs) and industrial users (IUs), but it appears that the terms may be used somewhat interchangeably throughout this chapter. Specifically in the introduction the following two bullets should be exchanged for the existing bullets in paragraph 5:

- "Pollutant concentration data from POTW (influent, effluent, primary effluent, sludge), collection system, receiving stream, *SIUs and other industrial users.*"
- "Flow data such as total POTW flow, POTW sludge flow to the digester, POTW sludge flow to disposal, *SIU flows*, receiving stream, hauled waste, and certain commercial *and other industrial* users."

4.1.1 Sampling Locations in the POTW
Some sampling is clearly required for the development of local limits. Other sampling may be desired to ensure the most appropriate site-specific limits possible. This distinction should be made, particularly in Section 4.1.1. Similarly, in the discussion of "Other Suggested Sites", rather than focusing just on sludge digestion, a statement should be included to indicate that site specific data can be gathered throughout the treatment plant processes to aid in the development of site specific inhibition values.

4.2.1 Headworks
There is a typographical error in the last paragraph of the section: "Such instances ~~and~~ should be dealt..."

4.3 Pollutants for Which POTWs Should Sample
Please clarify the first sentence by adding the underlined word: "...to be included in the calculation of MAHLs and the POSSIBLE development of local limits..."

4.8 Information Collection and Maintenance
Last paragraph, second sentence: change "of the sample's preparation" to "of sample preparation" and change "identify" to "identity".

4.10.2 and 4.10.3
EPA should explain how the average daily flow rate of all sludge flows to digestion will be used (4.10.2) and how the mass of pollutants in the sludge flow to disposal will be used (4.10.3).

Chapter 5 - Calculation of Maximum Allowable Headworks Loadings (MAHL)

This chapter presents the calculation of maximum allowable headworks loadings in a straightforward manner. Most of the suggested changes presented here are attempts to make it easier to understand and carry out these calculations.

The second paragraph of Chapter 5 contains a definition of MAHL that implies that a POTW will not violate any treatment plant or environmental criteria as long as the pollutant loading does not exceed the MAHL. This paragraph would be improved if it stated that MAHLs are *intended* to prevent violations of treatment plant and environmental criteria.

This definition is of concern because the actual removal efficiencies exhibit variation, while the MAHL calculation must utilize a single estimate of the removal efficiency. The *Draft Guidance* recognizes this fact in the section that describes the decile approach to removal efficiency calculations. Statements such as these contribute to the perception that an exceedance of a MAHL is equivalent to a violation of an environmental standard or evidence that inhibition has occurred.

In the first sentence of the chapter, *concerns* should be singular.

5.1 Calculation of Removal Efficiencies
First bullet of section 5.1, the word *daily* should follow the word *average.*

5.1.1 Removal Efficiency Calculation Methodologies
The *Draft Guidance* presents calculations of removal efficiencies in Equations 5.1 and 5.2 that contain terms that are inconsistent with other references in the *Draft Guidance* and other guidance on this subject. The terms R_{sec} and R_{ter} should be changed to R_{prim} and R_{sec}, respectively.

EPA did place more emphasis upon defining how removal efficiencies are calculated for different portions of the treatment facility (e.g., from headworks to secondary, tertiary, and WWTP effluent) than was available in the 1987 Guidance or the 1991 supplemental manual. However, in doing so, the *Draft Guidance* presents definitions that will confuse readers familiar with the 1987 Guidance.

The 1987 Guidance contains a general formula for the calculation of removal efficiencies based on mean influent/effluent data. The 1991 supplemental manual expanded on this *Guidance* by presenting a general formula for calculating the average of paired influent/effluent daily removal efficiencies. In both of these guidance manuals, the reader utilized these formulas to calculate removal efficiencies across the entire treatment system or a stage of treatment (e.g., primary or secondary treatment).

The *Draft Guidance* presents both types of removal efficiency calculations, and presents formulas for the calculation of removal efficiencies across specific stages of treatment. In doing so, however, the *Draft Guidance* has defined terms that conflict with the 1987 Guidance. For example, the term R_{sec} was defined in the 1987 Guidance as the removal efficiency across primary and secondary treatment (from the headworks to secondary treatment **effluent**). However, the *Draft Guidance* defines R_{sec} as the removal efficiency from headworks to the secondary treatment **influent**. Thus, the definition of R_{sec} in the *Draft Guidance* is equivalent to the R_{prim} definition in the 1987 Guidance.

AMSA suggests that EPA revert to its previous definitions of removal efficiencies in order to reduce the confusion that would be caused by changing how these terms are defined. The general rule should be that R_{xxx} should refer to removals from the headworks to the effluent of the xxx treatment stage. This approach is in fact adopted in the *Draft Guidance* for the definition of R_{wwtp}, which refers to the plant removal efficiency from headworks to plant effluent. This definition is inconsistent with the definition of R_{potw} in the 1987 Guidance. However, the *Draft Guidance* defines R_{sec} as removal from headworks to secondary influent, and defines R_{ter} as removal from headworks to secondary effluent. These terms were defined by the 1987 Guidance as R_{prim} and R_{sec}, respectively, as well as in the PRELIM user's guide. For the sake of clarity, the old definitions should be retained.

Also, as another general note, a full set of references should be placed at the end of each chapter to aid the reader in locating these publications. As examples, section 5.1.3 (Data Quality) and section 5.2.6 (Air-Quality Based AHLs) reference non-EPA publications, but there is no notation on how to find the primary source.

Also, in the text following Table 5-2, the word *encourages* should be removed.

5.2.2 Effluent-Quality Based AHLs

In the discussion of allowable headworks loadings (AHLs) based on Water Quality Standards or Criteria, the *Draft Guidance* should state that dry weather POTW flows should be used in Equation 5.6. This equation is a formula that utilizes Q_{wwtp} and Q_{str}, the average WWTP and receiving stream flows, respectively. The text that describes the calculations involved with this equation makes it clear that the receiving stream flows should be the low-flow values of 7Q10 or 1Q10. There is no similar guidance to use the low-flow values for WWTP flow in these calculations. AMSA suggests that such advice be placed in the *Draft Guidance*. Many

POTWs experience sufficient inflow and infiltration to make the average flow significantly higher in the wet season than during the dry season. In such a case, use of a value of Q_{wwtp} that was calculated over an entire year would result in an inflated AHL based on water quality. Thus, dry weather POTW flows should be used along with the dry weather receiving stream flows for these calculations.

5.2.3 Sludge-Quality Based AHLs
Paragraph 2, first bullet, *biosolid* should be plural. Fourth bullet, change *Equation 5.8, Equation 5.9...* to *Equation 5.7, Equation 5.8...*

Table 5-3 Land Application Requirements
Biosolid should be plural.

5.2.4 Surface Disposal
First paragraph, second bullet, *pollutant* should be plural.

5.2.5 Inhibition-Based AHLs
The first word of the first paragraph, *pollutants* should be singular.

The *Draft Guidance* should acknowledge that at some POTWs, tertiary processes occur simultaneously and in the same location as secondary processes. In the discussion of inhibition-based AHLs and especially in Figure 5-3, there is an assumption that treatment processes such as removal of nitrogen and phosphorus occur following secondary sedimentation. In many POTWs, such "tertiary" treatment stages are tertiary only in the sense of going beyond what is normally considered to be secondary treatment (e.g., activated sludge). In practice, however, nutrient removal is often more like an advanced secondary treatment process that occurs in the same basin as the activated sludge process. Thus, the secondary and tertiary treatment processes are conducted concurrently, not in series as is depicted in Figure 5-3. In these cases, removal efficiencies such as R_{sec} and R_{ter} (used in Equations 5.10 and 5.11) would have the same value. AMSA suggests that recognition of the often-concurrent nature of some "tertiary" processes would clarify this aspect of calculating inhibition-based AHLs, especially for those who are new to the local limits development process.

5.3.1 BOD/TSS
In the 2nd paragraph, fourth sentence, *specification* should be plural.

5.3.3 Oil and Grease
This section should be rewritten to include more information that POTWs could use to implement an effective approach to controlling polar and non-polar oil and grease. The *Draft Guidance* includes a short discussion of the origin of the commonly implemented local limit of 100 mg/L for fats, oils, and grease. This discussion concludes that the value of 100

mg/L is based on a history of being protective of the treatment plant and collection system, and based on the achievability of 100 mg/L using best management practices or generally available pretreatment.

The *Draft Guidance* then makes the statement that such limits should be justified with additional information in order to be considered a technically based limit. That statement is then followed by a discussion of how the 100 mg/L limit is based on a 1975 EPA document (*Treatability of Oil and Grease Discharged to Publicly Owned Treatment Works*). That study found that a dilution of at least 2X occurs in collection systems and that influent to biological systems should contain less than 50 mg/L oil and grease of mineral or petroleum origin to prevent interference.

It is not clear whether the discussion of the 1975 study is offered as technical information intended to support the technical basis of the 100 mg/L limit. If this is the case, then the *Draft Guidance* should explicitly state that this information provides a technical basis to support the limit. If this discussion is not intended to support the technical basis of the limit, then the *Draft Guidance* is lacking in that respect. The *Draft Guidance* does describe some of the ways that oil and grease can cause inhibition, but there is a lack of useful information that would assist POTWs in ensuring such limits would have an acceptable technical basis.

The *Draft Guidance* would be improved if it included information on how some POTWs have successfully dealt with the issue of polar oil and grease. For example, some POTWs have chosen to require Best Management Practices based on proper maintenance of oil/water separators and grease interceptors. If failure to properly implement these BMPs results in sewer line blockages caused by accumulated grease, then enforcement procedures are in place to remedy the situation. In such cases, the POTW can effectively deal with the oil and grease issue without developing a local limit.

5.5 Sample MAHL Calculation
The last equation contains a mathematical error. The correct loading is 238 lbs/day.

Chapter 6 - Designating and Implementing Local Limits

6.1 Determining the Need for Local Limits
The following sentence should be removed from this section:

> "Consequently, developing and adopting local limits for pollutants other than those for which local limits are needed immediately would not increase the regulatory burden on the POTW or the user."

This statement is not true. Establishing a limit on any pollutant at any time increases the regulatory burden on the POTW [and the SIU]. When a pollutant is "limited" rather than merely "monitored", compliance determinations/calculations/tracking must be made by the POTW on at least a semi-annual basis for that pollutant.

Equation 6.1
This equation defines $L_{\%}$, but the formula presents a proportion instead of a percentage. AMSA suggests the equation should read:

$$L_{\%}=\left(\frac{L_{INFL}}{L_{MAHL}}\right)100$$

6.1.1 Actual Loading vs. MAHL
The second full paragraph should incorporate the following changes (noted in italics):

> "When comparing actual loadings against the MAHLs for toxic pollutants, *a formal local limits evaluation should be considered* where the average actual *influent* loading of a pollutant exceeds 60% of the MAHL, or where the maximum actual *influent* loading exceeds 80% of the MAHL any time in the 12 month period preceding the analysis. For BOD_5, TSS, and ammonia, *a formal local limits evaluation should be considered* where the monthly average influent loading reaches 80% of average design capacity for the pollutant during any one month in the 12 month period preceding the analysis....."

A formal local limits evaluation would include review/recalculation of the pollutant headworks analysis and MAHL and MAIL determinations. However, the *Draft Guidance* should reflect that it is only a suggested or recommended action not a requirement.

6.1.2 Noncompliance Due to Pass Through or Interference
The second sentence of the first full paragraph should incorporate the following changes (noted in italics):

> "A POTW that has experienced pass through or interference in the past must *conduct a formal local limits evaluation for the pollutant(s)* responsible for the noncompliance, regardless of whether the problem remains ongoing."

One instance of pass through or interference at a POTW, particularly if an accidental slug load caused the single instance, should not necessarily require the development of local limits for that pollutant. However, a formal local limits evaluation would be appropriate.

6.2.6 Expansion/Growth Allowance
The following sentence should be removed from this section:

> "A POTW should annually re-evaluate its local limits, however, so a growth allowance may not be necessary."

An annual POTW compliance review (including whole effluent toxicity test results and water quality standards) should be sufficient. A formal local limits evaluation is not necessary annually.

6.5 Common Sense Assessment
The third paragraph of this section includes the following bullet as "Other options for reducing pollutant loads to the POTW":

- "Carefully examining impurities in chemicals used by industry, POTWs and water suppliers."

Certainly impurities (particularly trace amounts of mercury) in certain chemicals are a source of pollutant loads to POTWs. However, many treatment chemicals (not impurities), used in potable water treatment processes can also contribute significant POTW pollutant loads and should be mentioned in the *Draft Guidance*. Examples include fluoride (hydrofluorosilicic acid additive for prevention of tooth decay) and zinc (zinc orthophosphate additive for corrosion control).

6.7 Public Participation
Public participation in the local limits process for POTWs that establish individual limits in SIU permits [as opposed to a uniform concentration] should be limited to the publication/notification of the MAHL values, domestic/uncontrollable loadings, safety and growth factors and resulting MAIL values. The technical allocation process to each SIU should not be second-guessed by the public or by competitors of the SIUs located in the POTW service area.

6.7 Public Participation
Last sentence of first paragraph: insert "are made" between "received" and "available".

6.8 Control Mechanisms
AMSA suggests that EPA outline all 6 flow categories (see below) in the Hampton Roads Sanitation District's (HRSD) flow-based local limits description:

> *HRSD Flow Based Concentration Local Limits (Daily Maximums and Monthly Averages)*
> 0-9999 gpd
> 10,000-19,999 gpd

20,000-29,999 gpd
30,000-39,999 gpd
40,000-199,999 gpd
200,000-399,999 gpd
(>400,000 Case-by-case determination)

HRSD also has local limits for the following parameters: Arsenic, Cadmium, Chromium, Copper, Cyanide, Lead, Mercury, Nickel, Phenolic Compounds, Silver, Zinc and Non-Saponifiable Oil & Grease. It is also important to note that the HRSD program does not include local limits for BOD and TSS.

Chapter 7 - Local Limits: Annual Reviews and Periodic Re-evaluations

The initial paragraph of the chapter should be changed to:

> A POTW may wish to review its local limits on an annual basis to determine if there are obvious signs that its local limits may not be adequately protective. This annual review could include a comparison of current headworks loadings with the maximum allowable headworks loading (MAHL) and any recent NPDES violations.

Section 7.1 Annual Local Limits Review
When preparing its annual report, a POTW might want to verify that its local limits are still protective of its treatment works, its workers, and the environment. To perform this verification, the POTW should compare its current headworks loadings to its MAHLs and review its NPDES compliance history to identify any violations.

Section 7.1.1 Comparison of Current Loadings with MAHLs
Delete the first sentence altogether as it could lead to another POTW annual report requirement.

In the second paragraph, the last part of the first sentence should read: "the POTW may choose to revise the local limit for that pollutant, or possibly develop a local limit for it if none exists."

Section 7.1.2 Review of Compliance History
The first sentence should begin "If an annual review is performed,. . ."

Section 7.2 Detailed Local Limits Re-evaluation
In the second paragraph, revise the first sentence, to read "As discussed above, POTWs may wish to review their local limits on an annual basis since conditions can change over time which might undermine the effectiveness of local limits."

Exhibit 7-2 When to Re-calculate or Develop Local Limits
The third question should read "Has the flow to the treatment plant changed significantly?"

Chapter 9 - Questions and Answers

9.1 General

Q: Do a minimum number of parameters need to be evaluated?

The response to this question starts, "There is no minimum number of parameters required by regulation." However, the response is confusing in that it cites EPA policy memoranda, previous local limits guidance, and the 1987 Guidance as defining a certain minimum list of pollutants for evaluation.

9.2 Potential Pollutants of Concern

Q: If a pollutant is below the detection level in influent, effluent, and sludge, can a POTW exclude it as a POC (and not develop a MAHL), even if it is one of EPA's 15 pollutants?

While the response to this question correctly indicates that an accurate MAHL calculation cannot be performed under this circumstance, and therefore no MAHL can be developed, both the question and its response conflict with the response to the previous question in Section 9.1, which indicated that no minimum number of parameters is required by regulation.

9.4 Determining MAHLs
Answer to first question, first sentence: change *concentration* to *loading*, change *will* to *may*.

Answer to fourth question, first sentence: *prohibit* should be *prohibits*.

9.5 Establishing Local Limits
Answer to second question, second-to-last paragraph, sixth sentence: change *simply* to *simple*.

Appendices

Appendices Y & Z
It would be very beneficial for Pretreatment personnel to have these appendices expanded to include more chemicals so as to ease the process for local limit evaluation.

Additional Appendices
AMSA would like to suggest the addition of the following documents for consideration as Appendices:

- *Local Limits Spreadsheet* (EPA Region VII) for reference in section 6.1, Determining the Need for Local Limits

- *Guidance for Setting Local Limits for a Pollutant Where the Domestic Loading Exceeds the Maximum Allowable Headworks Loadings* (EPA Region III) for reference in section 6.2.4, Uncontrolled Sources

We have attached both of these documents to our comments for your consideration.

Suggested Appendix

Local Limits Spreadsheet
(EPA Region VII)

TABLE 1

Local Limits Determination Based on NPDES Daily Effluent Limits

	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Daily Limit (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic						0	-	0	-	-	
Cadmium						0	-	0	-	-	
Chromium						0	-	0	-	-	
Hex. Chrom.						0	-	0	-	-	
Copper						0	-	0	-	-	
Cyanide						0	-	0	-	-	
Iron						0	-	0	-	-	
Lead						0	-	0	-	-	
Mercury						0	-	0	-	-	
Molybdenum						0	-	0	-	-	
Nickel						0	-	0	-	-	
Selenium						0	-	0	-	-	
Silver						0	-	0	-	-	
Zinc						0	-	0	-	-	

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Rpotw) Removal efficiency across POTW as percent.
(Ccrit) NPDES daily maximum permit limit for a particular pollutant in mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qpotw}{1 - Rpotw}$$

|::

TABLE 2

Local Limits Determination Based on NPDES Monthly Effluent Limits

	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rpotw)	NPDES Monthly Limit (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0	0		0	0	-	0	-	-	0
Cadmium	0	0	0		0	0	-	0	-	-	0
Chromium	0	0	0		0	0	-	0	-	-	0
Hex. Chrom.	0	0	0		0	0	-	0	-	-	0
Copper	0	0	0		0	0	-	0	-	-	0
Cyanide	0	0	0		0	0	-	0	-	-	0
Iron	0	0	0		0	0	-	0	-	-	0
Lead	0	0	0		0	0	-	0	-	-	0
Mercury	0	0	0		0	0	-	0	-	-	0
Molybdenum	0	0	0		0	0	-	0	-	-	0
Nickel	0	0	0		0	0	-	0	-	-	0
Selenium	0	0	0		0	0	-	0	-	-	0
Silver	0	0	0		0	0	-	0	-	-	0
Zinc	0	0	0		0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Rpotw) Removal efficiency across POTW as percent.
(Ccrit) NPDES monthly maximum permit limit for a particular pollutant in mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qpotw}{1 - Rpotw}$$

TABLE 3

Local Limits Determination Based on Activated Sludge Inhibition Level

	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rprim)	Activated Sludge Inhibition Level (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0			0	0	-	0	-	-	0
Cadmium	0	0			0	0	-	0	-	-	0
Chromium	0	0			0	0	-	0	-	-	0
Hex. Chrom.	0	0			0	0	-	0	-	-	0
Copper	0	0			0	0	-	0	-	-	0
Cyanide	0	0			0	0	-	0	-	-	0
Iron	0	0			0	0	-	0	-	-	0
Lead	0	0			0	0	-	0	-	-	0
Mercury	0	0			0	0	-	0	-	-	0
Molybdenum	0	0			0	0	-	0	-	-	0
Nickel	0	0			0	0	-	0	-	-	0
Selenium	0	0			0	0	-	0	-	-	0
Silver	0	0			0	0	-	0	-	-	0
Zinc	0	0			0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Rprim) Removal efficiency across across primary treatment as percent.
(Ccrit) Activated sludge threshold inhibition level, mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qpotw}{1 - Rprim}$$

TABLE 4

Local Limits Determination Based on Nitrification Inhibition Level

	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE						MAXIMUM LOADING		INDUSTRIAL		
Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Removal Efficiency (%) (Rsec)	Nitrification Inhibition Level (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0			0	0	-	0	-	-	0
Cadmium	0	0			0	0	-	0	-	-	0
Chromium	0	0			0	0	-	0	-	-	0
Hex. Chrom.	0	0			0	0	-	0	-	-	0
Copper	0	0			0	0	-	0	-	-	0
Cyanide	0	0			0	0	-	0	-	-	0
Iron	0	0			0	0	-	0	-	-	0
Lead	0	0			0	0	-	0	-	-	0
Mercury	0	0			0	0	-	0	-	-	0
Molybdenum	0	0			0	0	-	0	-	-	0
Nickel	0	0			0	0	-	0	-	-	0
Selenium	0	0			0	0	-	0	-	-	0
Silver	0	0			0	0	-	0	-	-	0
Zinc	0	0			0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Rsec) Removal efficiency across primary treatment and secodary treatment as percent.
(Ccrit) Nitrification threshold inhibition level, mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qpotw}{1 - Rsec}$$

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TABLE 5

Local Limits Determination Based on USEPA 503 Sludge Regulations

ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE

MAXIMUM LOADING

INDUSTRIAL

Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Sludge Flow (MGD) (Qsldg)	Percent Solids (%) (PS)	Removal Efficiency (%) (Rpotw)	503 Sludge Criteria (mg/kg) (Cslcrit)	Domestic and Conc. (mg/l) (Cdom)	Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0			0		0	0	-	0	-	-	0
Cadmium	0	0			0		0	0	-	0	-	-	0
Chromium	0	0			0		0	0	-	0	-	-	0
Hex. Chrom.	0	0			0		0	0	-	0	-	-	0
Copper	0	0			0		0	0	-	0	-	-	0
Cyanide	0	0			0		0	0	-	0	-	-	0
Iron	0	0			0		0	0	-	0	-	-	0
Lead	0	0			0		0	0	-	0	-	-	0
Mercury	0	0			0		0	0	-	0	-	-	0
Molybdenum	0	0			0		0	0	-	0	-	-	0
Nickel	0	0			0		0	0	-	0	-	-	0
Selenium	0	0			0		0	0	-	0	-	-	0
Silver	0	0			0		0	0	-	0	-	-	0
Zinc	0	0			0		0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Qsldg) Sludge flow to disposal in MGD.
(PS) Percent solids of sludge to disposal.
(Rpotw) Removal efficiency across POTW as a percent.
(Cslcrit) 503 sludge criteria in mg/kg dry sludge.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Cslcrit * (PS/100) * Qsldg}{Rpotw}$$

TABLE 6

Local Limits Determination Based on State Sludge Criteria

ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE

MAXIMUM LOADING INDUSTRIAL

Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Sludge Flow (MGD) (Qsldg)	Percent Solids (%) (PS)	Removal Efficiency (%) (Rpotw)	State Sludge Criteria (mg/kg) (Cslcrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0	0	0	0		0	0	-	0	-	-	0
Cadmium	0	0	0	0	0		0	0	-	0	-	-	0
Chromium	0	0	0	0	0		0	0	-	0	-	-	0
Hex. Chrom.	0	0	0	0	0		0	0	-	0	-	-	0
Copper	0	0	0	0	0		0	0	-	0	-	-	0
Cyanide	0	0	0	0	0		0	0	-	0	-	-	0
Iron	0	0	0	0	0		0	0	-	0	-	-	0
Lead	0	0	0	0	0		0	0	-	0	-	-	0
Mercury	0	0	0	0	0		0	0	-	0	-	-	0
Molybdenum	0	0	0	0	0		0	0	-	0	-	-	0
Nickel	0	0	0	0	0		0	0	-	0	-	-	0
Selenium	0	0	0	0	0		0	0	-	0	-	-	0
Silver	0	0	0	0	0		0	0	-	0	-	-	0
Zinc	0	0	0	0	0		0	0	-	0	-	-	0
Manganese		0						0	-	0	-	-	
Antimony		0						0	-	0	-	-	

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.

(Qpotw) POTW's average influent flow in MGD.

(Qsldg) Sludge flow to disposal in MGD.

(PS) Percent solids of sludge to disposal.

(Rpotw) Removal efficiency across POTW as a percent.

(Cslcrit) State sludge criteria in mg/kg dry sludge.

(Qdom) Domestic/commercial background flow in MGD.

(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.

(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).

(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).

(Lind) Maximum allowable industrial loading to the POTW in pounds per day.

(Cind) Industrial allowable local limit for a given pollutant in mg/l.

(SF) Safety factor as a percent.

8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Cslcrit * (PS/100) * Qsldg}{Rpotw}$$

TABLE 7

Local Limits Determination Based on Chronic Water Quality Standards

ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE

Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Upstream Flow (MGD) (Qstr)	Upstream Conc. (mg/l) (Cstr)	Removal Efficiency (%) (Rpotw)	Chronic WQS (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	MAXIMUM LOADING Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	INDUSTRIAL Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0			0		0	0	-	0	-	-	0
Cadmium	0	0			0		0	0	-	0	-	-	0
Chromium	0	0			0		0	0	-	0	-	-	0
Hex. Chrom.	0	0			0		0	0	-	0	-	-	0
Copper	0	0			0		0	0	-	0	-	-	0
Cyanide	0	0			0		0	0	-	0	-	-	0
Iron	0	0			0		0	0	-	0	-	-	0
Lead	0	0			0		0	0	-	0	-	-	0
Mercury	0	0			0		0	0	-	0	-	-	0
Molybdenum	0	0			0		0	0	-	0	-	-	0
Nickel	0	0			0		0	0	-	0	-	-	0
Selenium	0	0			0		0	0	-	0	-	-	0
Silver	0	0			0		0	0	-	0	-	-	0
Zinc	0	0			0		0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Qstr) Receiving stream (upstream) 7Q10 flow in MGD.
(Cstr) Receiving stream background level in mg/l.
(Rpotw) Removal efficiency across POTW as percent.
(Ccrit) State chronic water quality standard for a particular pollutant in mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * (Ccrit * (Qstr + Qpotw) - (Cstr * Qstr))}{1 - Rpotw}$$

|::

TABLE 8

Local Limits Determination Based on Acute Water Quality Standards

ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE

MAXIMUM LOADING

INDUSTRIAL

Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Upstream Flow (MGD) (Qstr)	Upstream Conc. (mg/l) (Cstr)	Removal Efficiency (%) (Rpotw)	Acute WQS (mg/l) (Ccrit)	Domestic Conc. (mg/l) (Cdom)	and Commercial Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0		0	0		0	0	-	0	-	-	0
Cadmium	0	0		0	0		0	0	-	0	-	-	0
Chromium	0	0		0	0		0	0	-	0	-	-	0
Hex. Chrom.	0	0		0	0		0	0	-	0	-	-	0
Copper	0	0		0	0		0	0	-	0	-	-	0
Cyanide	0	0		0	0		0	0	-	0	-	-	0
Iron	0	0		0	0		0	0	-	0	-	-	0
Lead	0	0		0	0		0	0	-	0	-	-	0
Mercury	0	0		0	0		0	0	-	0	-	-	0
Molybdenum	0	0		0	0		0	0	-	0	-	-	0
Nickel	0	0		0	0		0	0	-	0	-	-	0
Selenium	0	0		0	0		0	0	-	0	-	-	0
Silver	0	0		0	0		0	0	-	0	-	-	0
Zinc	0	0		0	0		0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Qstr) Receiving stream (upstream) 1Q10 flow in MGD.
(Cstr) Receiving stream background level in mg/l.
(Rpotw) Removal efficiency across POTW as percent.
(Ccrit) State acute water quality standard for a particular pollutant in mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * (Ccrit * (Qstr + Qpotw) - (Cstr * Qstr))}{1 - Rpotw}$$

|::

TABLE 9

Local Limits Determination Based on Anaerobic Digester Inhibition Level

	ENVIRONMENTAL CRITERIA AND PROCESS DATA BASE							MAXIMUM LOADING		INDUSTRIAL		
Pollutant	IU Pollut. Flow (MGD) (Qind)	POTW Flow (MGD) (Qpotw)	Sludge Flow to Digester (MGD) (Qdig)	Removal Efficiency (%) (Rpotw)	Anaerobic Digester Inhibition Level (mg/l) (Ccrit)	Domestic and Commercial Conc. (mg/l) (Cdom)	Flow (MGD) (Qdom)	Allowable Headworks (lbs/day) (Lhw)	Domestic/ Commercial (lbs/day) (Ldom)	Allowable Loading (lbs/day) (Lind)	Local Limit (mg/l) (Cind)	Safety Factor (%) (SF)
Arsenic	0	0		0		0	0	-	0	-	-	0
Cadmium	0	0		0		0	0	-	0	-	-	0
Chromium	0	0		0		0	0	-	0	-	-	0
Hex. Chrom.	0	0		0		0	0	-	0	-	-	0
Copper	0	0		0		0	0	-	0	-	-	0
Cyanide	0	0		0		0	0	-	0	-	-	0
Iron	0	0		0		0	0	-	0	-	-	0
Lead	0	0		0		0	0	-	0	-	-	0
Mercury	0	0		0		0	0	-	0	-	-	0
Molybdenum	0	0		0		0	0	-	0	-	-	0
Nickel	0	0		0		0	0	-	0	-	-	0
Selenium	0	0		0		0	0	-	0	-	-	0
Silver	0	0		0		0	0	-	0	-	-	0
Zinc	0	0		0		0	0	-	0	-	-	0

(Qind) Industrial User total plant discharge flow in Million Gallons per Day (MGD) that contains a particular pollutant.
(Qpotw) POTW's average influent flow in MGD.
(Qdig) Sludge flow to digester in MGD.
(Rpotw) Removal efficiency across POTW as percent.
(Ccrit) Anaerobic digester threshold inhibition level in mg/l.
(Qdom) Domestic/commercial background flow in MGD.
(Cdom) Domestic/commercial background concentration for a particular pollutant in mg/l.
(Lhw) Maximum allowable headworks pollutant loading to the POTW in pounds per day (lbs/day).
(Ldom) Domestic/commercial background loading to the POTW for a particular pollutant in pounds per day (lbs/day).
(Lind) Maximum allowable industrial loading to the POTW in pounds per day.
(Cind) Industrial allowable local limit for a given pollutant in mg/l.
(SF) Safety factor as a percent.
8.34 Unit conversion factor

$$Lhw = \frac{8.34 * Ccrit * Qdig}{Rpotw}$$

Suggested Appendix

Guidance for Setting Local Limits for a Pollutant Where the Domestic Loading Exceeds the Maximum Allowable Headworks Loadings
(EPA Region III)

EPA United States Environmental Protection Agency
Region 5 Water Division

U.S. EPA, Region 3 Guidance for Setting Local Limits for a Pollutant where the Domestic Loading Exceeds the Maximum Allowable Headworks Loadings

INTRODUCTION

The General Pretreatment Regulations require that POTWs develop local limits to prevent pass through and interference. Pass through (as well as interference) is defined in terms of a violation of the POTW's NPDES permit, and therefore pass through of a given pollutant cannot occur where there is no limit for that pollutant in the POTW's NPDES permit. However for calculation of limitations where no NPDES permit limit has been established, Region III strongly recommends that state water quality standards be used to determine the maximum allowable headworks loading for each pollutant. This will help to ensure that the local limits are protective of the receiving stream water quality and to facilitate continued compliance with any effluent limits in the permit. It will also help the POTW to avoid future NPDES limits for toxic pollutants by keeping the loading of these pollutants to the receiving stream below the levels of concern. Limitations developed in this manner should also remain relatively stable, and thus not require industrial users to redesign their treatment systems because the POTW's NPDES permit is reissued to include stringent water quality based effluent limits.

In several circumstances, local limitations calculated by POTWs based on NPDES permit limits or water quality standards using the methodology recommended in the EPA local limits developed guidance have yielded negative allowable industrial loadings. Region III recognizes that a negative limit is impractical and that an alternative method of establishing local limits is necessary. At the same time, the calculation indicates that the POTW needs to take steps to reduce the loading of these pollutants received at the treatment plant.

The following is intended to provide POTWs with approaches to addressing situations where the allowable industrial loading is calculated to be negative, as well as establishing some guidelines on what the Region expects the POTWs to undertake. This guidance assumes that the NPDES permit limits are valid and that compliance is required. This guidance and the pretreatment program are not attempting to address issues related to permit issuance, water quality standards, or drinking water standards. If these issues are of concern to the POTW, they must be pursued through the appropriate offices of PADER and EPA. Any violation of a NPDES permit limit could subject the POTW to an enforcement action, and therefore the POTW may need to consider approaches not addressed in this guidance such as installation of additional treatment to achieve compliance, or investigation of the feasibility of local drinking water legislation.

GENERAL APPROACH

This guidance is intended to establish minimum guidelines for establishment of local limits where the calculated allowable industrial loading is negative. It is not intended to automatically broaden the scope of the pretreatment program in these situations. Generally, the action plan discussed in the guidance is not a prerequisite to approval of the limits and implementation of the plan would not be formally tracked by EPA. The activities of a

POTW implementation of any action plan should be discussed in the Annual Pretreatment Summary Report that POTWs are required to submit. However, the POTW is required to comply with its NPDES permit. If permit violations occur, the POTW could be subject to enforcement including the imposition of requirements to conduct activities similar to those contained in this guidance. It should also be noted that this guidance is not intended to be all inclusive of problems that may result in the negative industrial loadings nor is it intended to be a complete listing of possible solutions. The POTW should use its best judgement in evaluating each situation to arrive at the best solution.

A three step approach to addressing negative allowable industrial loadings is recommended in this guidance. The first step, short-term measures, provides suggestions that can be used to evaluate the data and methodology used in the local limits calculations to quickly assess the validity of the results. The data and methodology should "make sense", and simple problems should be identified and corrected prior to attempting more difficult solutions.

Where the problem cannot be corrected using the short-term measures, the second step suggests that the POTW establish interim local limits which can be used while the POTW investigates other sources of pollutants and ways of controlling those sources. Since pass through is defined in terms of NPDES permit violations, establishment of the interim local limits may vary depending on whether the negative loading pollutant is based on an NPDES permit limit or on a water quality standard. This does not cause pass through if the discharge, adjusted for the POTW's removal of that pollutant, does not exceed the POTW's NPDES limit. [Region V Note: establishment of interim local limits may also be driven by sludge disposal requirements.]

The third step consists of development and implementation of a long-term action plan. The plan would address industrial users not normally covered by the pretreatment program or other non-industrial sources of the pollutants of concern. Upon completion of the implementation of the action plan, the POTW would reevaluate the local limits to determine whether a revision is appropriate.

I. SHORT-TERM MEASURES

Before attempting a long term approach to reducing the influent loadings, there are several short-term actions that the POTW should evaluate to ensure that its efforts are not wasted.

Are all mathematical calculations correct? A simple error could result in major problems.

Is the data used based on actual sampling results, or is it data from the literature? Site-specific sampling data will yield a more accurate allowable headworks loading. Literature data should be avoided at all times except when actual data is impossible to obtain.

What safety factor was used? As the industrial limits approach zero, it may be appropriate to reduce the safety factor used in the calculations. There is no requirement that the safety factor used in the calculations be the same for all pollutants.

What flows were used? The calculations of the local limits should be based on current flows (domestic, industrial, etc.) and not design flows or projected future flows. This is to ensure that the POTW can meet its discharge requirements now, rather than under certain hypothetical conditions.

How many samples were used? If no data is available, national EPA guidance recommends that the POTW conduct five consecutive days of sampling to obtain a minimum number of analytical results. Some POTWs have suggested that a minimum of seven to twenty days of sampling is necessary for meaningful results and that sampling should be spaced rather than on consecutive days. In any case, the more sampling data that is available, the more reliable the local limits. The Region will not disapprove local limits where the minimum number of samples from the national guidance has been used. However, NPDES permits are beginning to require long-term sampling to obtain this data.

Are the sample points for data collection correct? Treatment plant sampling must take into account the entire plant. Influent samples must be taken prior to any recycle flows, but should include loadings from any hauled wastes. Effluent samples must be taken after all treatment operations, including chlorination. Domestic sampling points should be reflective of the unregulated waste contributions to the POTW. Wastes that are not currently regulated by the POTW such as that from photo labs, dental offices, dry cleaners, or hauled wastes may contribute significant loadings of certain pollutants. The POTW should determine whether regulation of these users under the pretreatment program will help achieve compliance with permit limits and water quality standards. Where regulation of these users is undertaken, the domestic sampling points should not include these users. It would be possible to construct a local limits scheme where small users are regulated for some pollutants, but not others. Again, in this circumstance, the domestic sampling should be reflective of the regulatory scheme, and sampling for the different pollutants might need to be done at different locations.

Are the times and dates of sampling appropriate? If samples are less than 24-hour composites, the result may reflect a peak or valley in the loadings and not represent a true daily loading. If wastewater characteristics are expected to vary during the year, sampling should be conducted during representative times of the year.

How reliable is the data? Ensure that proper sampling, preservation, holding times, and analysis were followed, including proper quality assurance/quality control. Where pollutant levels are near the detection limit, the POTW should consider using "clean" sampling techniques to ensure that the samples are not contaminated.

What test methods were used? The levels of some pollutants are often reported as non-detectable. The POTW should use the most sensitive approved test methods where necessary to obtain actual data. [Region V Note: the most sensitive approved test methods for federal standards are those listed in 40 CFR Part 136 or by U.S. EPA-approved alternate test procedures as described in 40 CFR Part 136.]

How were "non-detectable" results handled? Non-detectable results can have a major impact on the loadings obtained through the headworks analysis calculated because of the impact on the removal rate calculations and/or the "uncontrollable" loadings. The use of non-detectable results should be evaluated on a case-by-case basis. In addition, it may be possible to use spiked samples (a known amount of the pollutant is added to the sample prior to analysis and then subtracted from the result to provide an actual value) to obtain sample results for given pollutants. However it may also be possible to make a fairly accurate estimate of what a non-detect means based on the other data. If there are a large number of samples available, and only one or two are non-detects, the non-detects could be discarded (Note: influent/effluent data should be discarded in pairs). This would eliminate the need to interpret the non-detectable result. Another alternative when the majority of the samples

provide detectable results, but some non-detects are found, is to use the detection limit as an estimate of the actual value. This is based on the assumption that where most results are detectable, the non-detects are probably near the detection limit. Where influent data is available but a large percentage of the effluent data is non-detectable, removal rates can be calculated for the metals using sludge data instead of effluent data. [Region V Note: for formula please see U.S. EPA Guidance Manual on the Development and Implementation of Local Discharge Limitations Under the Pretreatment Program (December 1987) p. 3-23.] Where a significant portion of the sample results are non-detectable, but there are also a number of detectable results, use of half the detection limit may be appropriate. If all of the sample results are non-detectable, a value near zero might be appropriate, since the results are most likely well below the detection limit. However, where both influent and effluent results are all below the detection level, the POTW should evaluate whether a local limit is necessary for that pollutant. In addition, it may be possible to estimate non-detectable domestic values by subtracting the non-domestic loadings from the influent loadings (Note: care should be taken if this approach is used especially where limited data is available). If all else fails and the data is to be discarded in favor of literature data, check to ensure that the literature data is reflective of the conditions observed in the sampling results (e.g., if the domestic literature data is twice the detection limit, it is not appropriate to use this value in place of non-detect sampling results). [Region V Note: using the method detection limit as an estimate of the actual value, instead of half or zero, will be more protective of the POTW. Also, it is important that POTWs ensure that method detection limits are at or near the 40 CFR Part 136 listings and are not being underreported. Samples that are diluted to get quantitation within the calibration curve for a parameter may require a corresponding elevation of the detection limit.]

Does the data add up? The influent loadings to the plant should approximate the sum of the loadings from the various sources (e.g., industrial, domestic, hauled, etc.). If the sum of the loadings from the various sources is between 80% and 120% of the influent loading, it is generally considered a good mass balance. If the numbers do not add up, it may indicate that one or more sources were not considered or were incorrectly considered, or that some of the data is faulty. [Region V Note: some sources of error may include over or under reporting of flows from industrial users, sewer flows not accounted for, and comparison of data collected over distinctly different periods of time.]

Is the "overloading" due to some other controllable source such as septage hauling or chemicals being added by the plant operators (in the plant or sewer system)? The POTW may need to reconsider acceptance of some types of wastewater such as septage to reduce the loadings of certain pollutants on the system. If the POTW is adding chemicals to control root growth or some other problem, it may need to consider alternatives which will not have an impact on the loadings of concern.

Is the POTW in compliance with its NPDES permit limits? If the POTW is in compliance with its NPDES limits but the calculations based on that NPDES limit result in negative allowable industrial loadings, it may indicate a problem with the data used in the local limits development.

II. ESTABLISHING LIMITS

A. Local limits based on NPDES permit limits

Local limits must be developed at a minimum, to prevent pass through and interference. In

reviewing and approving local limits, one of EPA's main functions is to ensure, to the extent possible, that the limits enable the POTW to comply with its NPDES permit, and do not allow pass through and interference. EPA cannot approve limitations which will not prevent pass through and interference.

However, where local limits calculated based on NPDES permit limits result in negative allowable industrial loadings, EPA recognizes that it is impractical to attempt to impose a negative discharge limit, and that an alternative approach may be necessary. In these circumstances, Region III is willing to approve local limits where the POTW establishes interim local limitations while pursuing other long-term toxic reduction measures (see section III). Remember, the POTW will be expected to achieve compliance immediately upon the effective date of final NPDES permit limits. [Region V Note: this assumes there is a compliance schedule for NPDES limits.] In addition, to establishing interim local limits, the POTW should require its industrial users to conduct toxic reduction evaluations and explore pollution prevention and other waste minimization alternatives, even where the user may be in compliance with the established interim local limits. This should result in industrial loadings which are as low as possible, and help the POTW achieve its ultimate toxic reduction goals.

Potential alternatives for establishing interim local limits include:

Calculate interim local limits based on interim limits in the NPDES permit, if applicable. This method would only apply if the permit limit causing the negative allowable industrial loading will not become effective for a significant period of time. In addition, the POTW would need to establish a second set of limitations which provide for compliance with the final limits in the NPDES permit and for which compliance would be required on or before the POTW's final NPDES compliance date. The IU permits should reflect both the interim and final local limits. One of the options below would be acceptable for this second set of limits. Prior to the effective date of the second set of limits, the POTW could implement some or all of its long-term action plan activities to reduce other toxic loadings to the treatment plant. By doing this, the POTW might be able to revise the final limits in order to provide for a more reliable set of limits.

Set interim local limits equal to the POTW's NPDES limits adjusted for the removal of each pollutant. Under this option, if the POTW removed 50% of a given pollutant, the interim local limit would be twice the NPDES limit (limit/(1-R)). The rationale is that if you could track a given "block" of wastewater from an industry, that "block" would not be the cause of a pass through if it did not exceed a level that, after reduction in the POTW, was not greater than the POTW's NPDES permit limit. This approach would be similar to the removal credits provision of 40 CFR 403.7. It would also require more sampling data to better quantify the removal rates.

Set interim local limits equal to the POTW's NPDES limit. If the user is discharging at levels that are at or below the POTW's NPDES discharge limit, it would be difficult to argue that the user is causing pass through.

Set interim local limits equal to the detection level for the most sensitive test method. This is the lowest limitation for which compliance can be shown. [Region V Note: this option may be especially appropriate for mercury and PCBs, where NPDES limits are often set below detection limits.]

The above listing is not meant to be all inclusive of options available to POTWs for establishing the interim local limits where the allowable industrial loadings are calculated to be negative. However, no interim local limits will be approved under these circumstances which are less stringent than the POTW's NPDES permit adjusted for the POTW removal. Limits which are less restrictive than this are not considered adequate to prevent pass through and interference. In addition, it is intended that the POTW pursue options for reducing the contribution of non-industrial sources to its influent loading of these pollutants. EPA cannot provide any "no enforcement" guarantees where the POTW violates an NPDES permit limit.

B. Local limits based on water quality standards (no permit limit) or other basis

Where there is no NPDES permit limit on a given pollutant, but based on water quality standards the local limit is still calculated to be negative, POTWs and EPA have considerably more flexibility in developing and approving limits. Region III still recommends that interim local limits be established in conjunction with a long-term (see section III) plan of action for reduction of toxic pollutants and toxic reduction evaluations by industrial users. However, the need to implement the action items in a relatively short period of time is not as great, since compliance with NPDES permit limits is not an issue.

The Region is also more willing to allow greater flexibility on the part of the POTW in establishing interim local limits. While the options listed above can be considered, the Region is also willing to consider less stringent interim local limits including establishing interim local limits based on sludge or interference, whichever is most stringent, but in no case should the industrial limits allow for exceedance of the current influent loading to the treatment plant for that pollutant.

III. LONG-TERM MEASURES

Where negative allowable industrial loadings have been verified using short-term measures such as those suggested above, the POTW should look at additional long-term measures to verify the calculations and identify means of reducing the non-industrial toxic loadings. Long-term measures could include activities such as those listed below. Any and all such measures should be included in the POTW's Annual Pretreatment Summary Report submitted to EPA.

All industries discharging non-domestic wastes should be required to conduct toxic reduction evaluations. These evaluations should include pollution prevention measures that could reduce or eliminate the discharge. Information on pollution prevention opportunities for various industries is available through the Pollution Prevention Information Clearinghouse (202-260-1023). [Region V Note: Information is also available at the Illinois Office of Pollution Prevention (217-782-8700) and the Indiana Office of Pollution Prevention and Technical Assistance (317-232-8172).] Information on conducting industrial toxic reduction evaluations should be available through the local office of DER or through EPA.

To re-verify the data used in the calculation, additional sampling should be conducted at least once per month for a twelve month period. The greater the number of samples, the more reliable the results will be. The POTW is encouraged to continue the sampling program over a longer period of time to better characterize the system. The sampling should

include the original sample points (assuming these were valid sample points) as well as additional points for domestic sources to better characterize the system loadings. By sampling over an extended period of time, the POTW may also be able to determine whether there are seasonal loadings. This may point to a specific problem and help in developing a solution.

Conduct sampling, or obtain sample results, for the drinking water source(s) that serve the sewered area. This data should help determine whether the source of the pollutants is the drinking water supply, the domestic wastewater, or small commercial users, and help to establish an approach. The water companies may have this data available over a fairly significant period of time. Where more than one water company supplies the service area, data should be obtained from all of the water companies since the results may be significantly different.

The POTW should characterize discharge to the system which were previously unregulated by the pretreatment program. Users such as photo developers, doctors and dental offices, dry cleaners, or funeral homes may contribute small quantities of a particular pollutant, but when added together they may contribute a significant loading. This can be especially true where water quality limits are tight. If these users are contributing a significant loading, they should be regulated under the pretreatment program. It is possible to place the same requirements on these users as are placed on the significant users, or a second tier of regulatory requirements can be established. The POTW should evaluate which regulatory scheme would accomplish the greatest strides toward the toxic reduction goals.

If the source appears to be, at least in part, the water supply, the POTW should approach the water company to develop a possible solution. The water company may be adding treatment chemicals (e.g., copper sulfate, zinc polyphosphate, etc.) which significantly increase the loadings of the pollutant of concern. It may be possible to change chemicals to one that will not cause an unwanted impact on the POTW. If this is not feasible, additional treatment may be possible at the water supply or POTW. Please note that if the solution results in higher costs to the water company, the POTW may need to assume all or part of these costs unless the POTW has the authority too establish local drinking water requirements.

If the pollutants appear to be added at the household, the POTW should also develop a program to address these pollutants. It may be possible to control copper from piping through a corrosion control program at the water supply. Pollutants that may be added by people disposing of wastes in the sewer might be addressed through a public outreach program and/or establishing alternative disposal methods such as hazardous waste collection days.

Back to the Top of this Document

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